1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28

the notch at the top of the stick and tied around the neck of the stick with another string. Under certain circumstances turkey down replaced eagle down, but the feathers of no other birds were used.

At the harvest ceremony all prayer sticks were painted blue (the Zuni color for men). After the salt gathering at Santa Rosa they were painted both blue and yellow. Occasionally a stick two feet long was "planted" in behalf of a group. This was done at the prayer-stick festival at Quitovaca, where the stick was painted with a red spiral, and by the salt gatherers from Akchin, who tied a red cloth around it.

Though there was a word for bird down, there was no word for prayer stick, which was simply called "sacred object," as were the fetishes.

Deer tails were as desirable as eagle down for accompanying a fetish. The scalp basket unpacked by the writer contained four of them. They should be, if possible, from the black-tailed deer, the white-tailed variety having "no power." Tails from a deer ritually killed were important ceremonial objects, used at the cleansing ceremony and in curing "deer sickness." However, the tail of any deer formed a valuable offering, and hunters did a thriving trade in them.

Tobacco was offered in the form of cane cigarettes; their ceremonial name was "reed joint." Each consisted of a section of *Phragmites communis*, three or four inches long and filled with *Nicotiana attenuata*, the variety grown by the Papago. If no reeds were obtainable, corn husks were used as cigarette wrappers. Cigarettes were always smoked before being deposited, the votary taking four puffs, in the four directions, then stating his wish.

Beads, usually of turquoise, were a less common offering, but highly valued. The request for offerings made in behalf of one village fetish ran: "Bring your valuable things, eagle down, deer tails, and beads."

Certain occasions demanded the use of corn meal, which must be made of "flatheaded corn" (two ears growing together so that each had one flat side).[1] Such meal was most lavishly used at the prayer-stick festival, and it is significant that Navitcu, the cere-

[1] Cf. Mason, 1918, p. 22.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

ECONOMICS

511 556 Poor as the Papago country was, its economics were those of abundance. Papago did not hoard property; they did not quarrel about land boundaries; they were constantly giving, as though from an inexhaustible supply. The answer is that the supply, meagre though it was from the modern point of view, was sufficient, for their simple needs and more.

431 Food was the principal gift and food will not keep in that hot country except in dehydrated form. Because of the migratory life, it must be left unguarded in storehouses and caches, subject to attack by animals or enemies. Better to dispose of any surplus while it was available and palatable and thus invest in good will! And anything but starvation rations was considered a surplus. The [262] standard meal was corn meal gruel: luxuries much beyond that were donated with lavish hand and never missed.

Giving became the regular Papago investment and the franker individuals say so. It never reached the extravagant proportions demanded in the Plains for all Papago life was in a gentler key. But one who gained the reputation of stinginess had damned his prospects in village and family life while the lavish giver not only achieved honor but had a continual income pouring in. For all gifts were returned, in equal quantity and more. The constant exchange [438] of goods in the form of gifts was the Papago equivalent for trade and merged only occasionally into trade in the stricter sense. Papago economics involves principally the study of groups which had gift relations.

The center of the system was the patriarchal family which, rather than the individual, must be taken as the unit both of property holding and of gift exchange.The family was a business concern, producing and disposing of goods under the direction of its male and female heads, and such production meant a full time occupation. This was not the sort of society where the men, when not hunting or [146] fighting, had the privilege of leisure: the men were day laborers like [562] the women. All rose with the morning star, rested in the heat of noon and did not stop work until dark. It was slow motion labor, for the heat forbids haste. But it was unremitting. Industry was the prime virtue and no one could get a mate or keep one without it.

221 462 We have noted the division of labor between male and female: a division so sharp that it kept the two sexes in separate groups during

UNCULTIVATED PLANTS USED AS SOURCES OF FOODS, BEVERAGES, SMOKING, AND CHEWING MATERIALS

1. Foods

The Papagos, like other peoples in the area, exploited the vegetable resources of the desert to the utmost, and the same plant at different seasons would provide not only roots, greens or fruits for food, but twigs for basketry, wood for implements or sap for dye.

In years when the rainy season was late they lived entirely on wild foods without planting at all. When the foods ripened, during or after the rainy season, enough was gathered and stored to last throughout the year, but just before the giant cactus harvest, food became very scarce, as is indicated by one of their names for May, *ko'ohk macat*, "the painful moon."

Some foods like the hackberry were simply used by the people in the neighborhood, while others like agave and acorns were gathered by special parties and either utilized or traded. There was one island of unusual flora on Elder Brother's mountain, Baboquivari. Here, near a permanent stream, grew the special luxuries he had provided for his people, and parties went to pick them for trade or on behalf of a village. Certain staples, however, grew in great quantity and these were gathered by everybody.

Different parts of the territory used different magical practices to insure a good crop, the most common being to make effigies of the desired fruits and plant them in the gathering grounds after a night of ritual singing. Sometimes merely an ironwood stake *(Olneya tesota)* was planted instead of the effigy.

When a crop was reported ripe the village organized its food gathering expedition. If the expedition were for

17:Castetter & Underhill N,E-5 (1931-1934) 1935
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251 and continue to go out for other batches until a large area surrounding the village has been picked over. The roasted
252 buds are used with greens of the annual salt bush *(Atriplex wrightii)* or lambsquarter *(Chenopodium alba)* as a sort of vegetable stew.

222 Although all Papagos eat mescal *(Agave americana)*,
251 many of them get it by trade rather than at first hand. It
[438] grows on the hills along the present international border and is usually gathered by parties who go to Sonora to work during their winter wanderings, stopping for a week or two to pluck and bake the mescal, and when necessary storing it in pits until they are ready to carry it home.

[412] Digging sticks of any hard wood, made chisel-shaped by pounding with a stone and hardened in the fire, are used to hack the plants off at the ground. The spiny leaves are then chopped off with a mescal hatchet, a semi-circular stone blade of granite or diorite.

251 The agave is pit-baked for twelve or more hours in the same way as are the cholla buds and joints. When this is done the remains of the leaves are pulled off, leaving an inner succulent mass about the size of a cauliflower. This has a slimy consistency and a sweet taste which is highly regarded. It is kept in jars to be eaten a little at a time or traded as a delicacy.

222 The flower stalks of the American aloe *(Agave americana)*, of sotol *(Dasylirion wheeleri)*, and the shoots of the night-blooming cereus *(Cereus greggii)* are also eaten as greens. They are not very extensively utilized however.
[285] Sotol is also a source of basketry material, but if the inner tender leaves have been taken for this purpose, the flower stalk does not develop. The flower stalks are dug out of the plants with a long stick having a chisel-like end, and cooked immediately but never stored.

252 An upright species of prickly pear cactus *(Opuntia*
222 sp.) is utilized by washing the large waxy flowers to remove their sticky secretion then frying them in grease, formerly deer fat, now lard.

252 *velutina)* to make a pinole,[1] and discusses its general use and preparation, while Havard (14) also refers to its use by the Papago.

222 Similarly the tubers of the climbing potato (a species of *Solanum*) and the roots of the wild onion *(Allium unifolium)* which grow only on Mt. Baboquivari, were collected in May and mid-summer, respectively. These two plants were brought back by hunters, or by individuals who made [438] the long special journey to obtain them to trade for baskets, skins or pottery. The bulbs of Papago Blue Bells are eaten raw. They do not have a pleasing taste and are eaten largely because they appear in early spring, before other crops are ready.

[271 252] The large root of the night-blooming Cereus *(Cereus greggii)* which may weigh as much as four pounds is chewed raw for thirst or may be baked whole in ashes, peeled and eaten.

Fruits[2]

222 Small fruits:

262 *u:spa't (Condalia spathulata)* Summer

Mulberry, *kohi (Morus microphylla)* Summer

Hackberry, *kom (Celtis reticulata)* Summer

Boxthorn, *kuawur (Lycium fremontii)* August

Mistletoe, *hakowa't (Phoradendron californicum)* Summer

Lote bush, *u:s tcui'tpa't (Zizyphus lycioides)* Summer

Bird Cayenne pepper, *tcirtipia (Capsicum frutescens* var. *baccatum)* August

Black oak, *toa (Quercus emoryi*, also *Quercus oblongifolia)* July

Bucknut, coffee berry, quinine plant, *hohwi (Simmondsia californica)* August

Cactus and Yucca fruits:

Giant cactus, sahuaro, *ha:canyi (Carnegia gigantea)* July

Organ pipe cactus, pitahaya, *tcutcuis (Lemaireocereus thurberi)* August

[272]

1. The Papagos mean, by pinole, a gruel made of parched, ground cornmeal and water. Since the meal has been parched before the water is added, no cooking is necessary. Pinole was the only ration used on journeys, since it served both for food and drink. It was also the prescribed food during ceremonial purification.

2. The term fruit is here used in the botanical sense and thus covers berries, nuts, etc

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Prickly pear cactus, *nohwi (Opuntia engelmannii)* June, October 262
Cholla *(Opuntia fulgida)* August 222
Cholla, *tci'orim (Opuntia echinocarpa)* August
Soapweed, datil, *hoi (Yucca baccata)* (fruit *howitc*) Summer

Of the small fruits, *Condolis spathulata* is eaten only 222
raw and not thought worth preserving. If hackberries 251
(Celtis reticulata) or mulberries *(Morus microphylla)* are found near the village, carrying baskets are filled with whole branches of them by the women. Clusters of mistletoe *(Phoradendron californicum)*, which often grows on the mesquite bush *(Prosopis velutina)*, are gathered, their branches laid on mats, dried and the berries rolled free. These berries form a sticky mass which is further sun-dried and stored. The somewhat larger boxthorn berries *(Lycium fremontii)* are picked, dried and eaten like raisins. Only the fruit of the lote bush *(Zizyphus lycioides)* is cooked, and this is boiled to a syrup like the cactus fruits.

These people now use as seasoning the very pungent 263
bird Cayenne pepper or spur pepper *(Capsicum frutescens* var. *baccatum)* which grows in the Baboquivari Mountains and apparently nowhere else in the state. This plant may have been introduced by the Papagos and is very much used by them in their daily life as a condiment on the table or for cooking with beans or other foods. It is this species that is cultivated farther south for the hot peppers. As one drives over the Papago Reservation and [438]
stops at trading posts he invariably finds dishes of these small, dry, red, extremely pungent berries offered for sale. These always find ready buyers among the Papagos and Mexicans.

Acorns *(Quercus emoryi)* ripen in July a little later 222
than the giant cactus fruit, but grow in only a few hilly places, mostly at the south of the Papago territory, and are gathered on a long camping excursion similar to that for the sahuaro fruit. For the most part acorns are eaten [432]
fresh from the shell. Bucknuts *(Simmondsia californica)* are similarly eaten though not in quantity. Russell (22)

17:Castetter & Underhill N.E-5 (1931-1934) 1935
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informants insisted that a decoction of the root was drunk only occasionally by private individuals among the Papagos.

Peyote *(Lophophora williamsii* or *Lophophora lewinii)* appears not to have been known by the Papagos unless it be one of the unidentified roots, rumored vaguely as powerful magic, that come from Mexico. It seems to have little importance for any of the desert area. Hrdlička (15), however, records that the Papagos and Pimas did use peyote slightly.

Tea-like drinks for refreshment were made by steeping the seeds of tansy mustard *(Sophia pinnata)*, a sage *(Salvia columbaria)*, broomweed *(Baccharis sarothroides)*, and joint fir *(Ephedra nevadensis)*.

3. SMOKING

coyote tobacco, *wiupuri (Nicotiana trigonophylla)* leaf dried and smoked

a lichen, *tcewi'ṭ hiosi'k*

Tobacco *(Nicotiana tabacum)* was regularly cultivated but wild tobacco *(Nicotiana trigonophylla)* grew on Elder Brother's mountain. Those who could do so made the expedition to secure it for trade. It was dried, then smoked in a tube made of a section of carrizo *(Phragmites communis)* stem about six inches long, or when carrizo could not be obtained the tobacco was wrapped in the inner white husk of an ear of corn.

The lichen referred to, known as "earth flowers," also grows on Elder Brother's mountain. The informants referred to it as a yellow growth on the north side of rocks which had to be scraped off with a knife. The only specimen procured was not in a condition to make determination possible. This lichen, apart from its magical uses, was dried and mixed with tobacco for smoking; it had a dizzying effect, and an odor that could be noticed from a distance. This may be the *pihol* flowers referred to by Densmore (9).